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BROWN & MICHAELS, PC
400 M & T BANK BUILDING
118 NORTH TIOGA ST
ITHACA, NY 14850

EXAMINER
LOVEL, KIMBERLY M

ART UNIT	PAPER NUMBER
2167	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/666,601	LOBO ET AL.
	Examiner	Art Unit	
	Kimberly Lovel	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 December 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4, 12-38 and 47* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-4, 12-38 and 47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This communication is responsive to the Amendment filed 22 December 2006.

2.   Claims 1-4, 12-38 and 47 are pending in this application. Claims 1 and 15 are

independent. In the Amendment filed 22 December 2006, claims 1-4, 13 and 15 have

been amended.

3.   The rejections of claims 1-4 and 12-14 as being unpatentable by US PGPub

2005/0131861 to Arritt et al in view of the dissertation titled "Pulsed DC Reactive

Magnetron Sputtering of Aluminum Nitride Thin Films" by Jung Won Cho; claims 15-19,

21-26, 28-30, 34-38 and 47 as being unpatentable over US PGPub 2005/0131861 to

Arritt et al in view of the dissertation titled "Pulsed DC Reactive Magnetron Sputtering of

Aluminum Nitride Thin Films" by Jung Won Cho in view of US PGPub 2003/0069795 to

Boyd et al; claim 20 as being unpatentable over US PGPub 2005/0131861 to Arritt et al

in view of the dissertation titled "Pulsed DC Reactive Magnetron Sputtering of Aluminum

Nitride Thin Films" by Jung Won Cho in view of US PGPub 2003/0069795 to Boyd et al

in view of US PGPub 2004/0243580 to Markki et al; and claims 27 and 31-33 as being

unpatentable over US PGPub 2005/0131861 to Arritt et al in view of the dissertation

titled "Pulsed DC Reactive Magnetron Sputtering of Aluminum Nitride Thin Films" by

Jung Won Cho in view of US PGPub 2003/0069795 to Boyd et al, further in view of US

Patent No 6,484,173 to O'Hare et al have been withdrawn as necessitated by

applicants' arguments.

Miscellaneous

4.   Claim 13 states previously presented, however the claim has been amended.

Specification

5.   The objection to the disclosure is withdrawn as necessitated by applicants'

amendment

Claim Objections

6.   The objections to claims 13 and 15 are withdrawn as necessitated by

amendment.

7.   **Claims 1, 14, 15, 16, 17, 23, 24, 25 and 28** objected to because of the following

informalities:

Claim 1 recites the limitation "a result database" in line 13 and the limitation "a

test result database" in line 14. It is unclear whether or not the two databases are the

same database.

There seems to be a typographical error in **claim 14**, line 1. The claim recites

"The repository of claim 13, **in the users** about whom information."

Claim 14 recites the limitation "comprise at least owners, users and providers."

The metes and bounds of this limitation are unclear. It is unknown whether the

limitation comprises at least one of the three entities or all three entities.

Claim 15 recites the limitation "a result database" in line 18 and the limitation "a

test result database" in line 20. It is unclear whether or not the two databases are the

same database. Also, **claim 15** recites the limitation "comprise at least owners, users and providers." The metes and bounds of this limitation are unclear. It is unknown whether the limitation comprises at least one of the three entities or all three entities.

Claim 16 recites the limitation "the class" in line 3, the limitation "the component material" in line 5 and the limitation "the structure of data" in line 9. There is insufficient antecedent basis for these limitations in the claim.

Claim 17 recites the limitation "the measurements" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 23 recites the limitations "the date of measurement" and "the specimen sample" in line 6. There is insufficient antecedent basis for these limitations in the claim.

Claim 24 recites the limitations "the same test or property data" in line 2 and "the same sample" in lines 2-3. There is insufficient antecedent basis for these limitations in the claim.

Claims 25 and 28 recite the limitations "the set of datasets" and "the specified material" in line 8. There is insufficient antecedent basis for these limitations in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 1 and 16** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1(a) comprises of elements (i), (ii), (iii) and (iv). Since there is not an "and" or an "or" between the listing of elements (iii) and (iv), it is unclear whether the database comprises elements (i), (ii), (iii) and (iv) or if the database comprises of at least one element of (i), (ii), (iii) and (iv).

Regarding **claim 16**, the phrase "such as" in line 5 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

To allow for compact prosecution, the examiner will apply prior art to these claims as best understood, with the assumption that the applicant will overcome the stated 112 rejections.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. **Claims 1-4, 12-14 and 16-20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 is directed towards a repository of material property data stored in a computer memory. However, the repository is considered to represent a mere arrangement of data, which is categorized as Nonfunctional Descriptive Material.

Nonfunctional Descriptive Material fails to produce a concrete, useful and tangible

result.

See MPEP 2106.01 [R-5]

Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture, or composition of matter and should be rejected under 35 U.S.C. 101. Certain types of descriptive material, such as music, literature, art, photographs, and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture, or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping or sequence of musical notes read from memory and thereafter causes another defined series of notes to be played, requires a functional interrelationship among that data and the computing processes performed when utilizing that data. As such, a claim to that computer is statutory subject matter because it implements a statutory process.<

Claims 2-4 and 12-14 are dependent on claim 1 and therefore are rejected on

the same grounds.

Claim 16 is dependent on the method of claim 15. A practical application would

be established by a useful, concrete and tangible result. For it to be a tangible result, it

must be more than a thought or a computation and must have a real world value rather

than being an abstract idea.

The claim recites the limitation "if the dataset passes the checks, entering the

dataset into the repository." The invention as recited inserts data if the dataset passes

the checks, however there is no step mentioned that states what happens if the dataset

fails to pass the checks. Since there is not an "if not" or "else" statement, the loop is continuous and therefore produces no tangible result. **Claims 17-20** are dependent on claim 16 and therefore are rejected on the same grounds.

To allow for compact prosecution, the examiner will apply prior art to these claims as best understood, with the assumption that the applicant will overcome the stated 101 rejections.

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13.   **Claims 1-4 and 12-14 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over US PGPub 2004/0117397 to Rappold, III (hereafter Rappold) in

view of US PGPub 2005/0131861 to Arritt et al (hereafter Arritt) in view of the

dissertation titled "Pulsed DC Reactive Magnetron Sputtering of Aluminum

Nitride Thin Films" by Jung Won Cho (hereafter Cho).

Referring to claim 1, Rappold discloses a repository comprising a plurality of

datasets stored in a computer memory, each dataset comprising:

a) a metadata database [metadata table 41] in the form of instances [each row –

in Fig 4, the instances are labeled 1-5] with associated metadata giving information

about the instances, the metadata comprising at least one data element selected from a

list comprising name, description [413 – first, middle, last, username, extension],

identifying information, data type [415 – in this example, the data type is a string], units,

acceptable values or ranges, and default value (see [0041]-[0043] and Fig 4), the

database comprising:

i) metadata [First] on the material (see Fig 4);

ii) metadata [Username] on the sample (see Fig 4);

iii) metadata [Extension] on the test (see Fig 4);

iv) metadata on data value elements [415 – data type: string] in a result

database [data table 50] (see [0042], lines 7-9 and Fig 4); and

b) a test result database [data table 50] comprising a plurality of instances [each

row – in Fig 5, the instances are labeled 121-139] having associated metadata in the

metadata database giving information about the instance [item 514 in data table 50

corresponds with column 411 in the metadata table], the instances comprising

information about at least one result derived from the test on the sample of the material

[the instances comprise information about an individual] (see [0044]-[0046] and Fig 5),

each instance comprising:

   i) at least one data element identifying at least one of material, the sample

or the test [item 512 – entity ID] (see [0045], lines 8-9); and

   wherein the metadata in the metadata database [metadata table 11 or 41] define

the instances in the metadata database and the instances of test result information in

the test result database [data table 10 or 50] (see [0029]), and

   wherein an instance from the test result database [data table 10 or 50], combined

with its associated metadata from the metadata database [metadata table 11 or 41]

describes the test result derived from the test on the sample of the material [describes

an individual] (see [0029] and [0032]).

   However, while Rappold discloses a repository of data including a metadata table

with associated metadata and a data table containing the actual data values, Rappold

fails to explicitly disclose a repository of material property data, wherein the metadata in

the metadata table is on the material, sample and test and wherein the data table is a

test result table comprising information about at least one result derived from the test on

the sample of the material. Furthermore, while Rappold discloses at least one data

value element, which is a string, Rappold fails to explicitly disclose at least one data

value element selected from a list comprising a single data point, an equation, a graph,

a data array, and a picture. Arritt discloses a repository of material property data

comprising a plurality of materials property datasets stored in a computer memory, each

dataset being associated with a sample of a material and a test on the sample of the

material [tracking/monitoring of samples through multiple testing areas] (see [0022]),

each dataset comprising:

> i) metadata on the material [material code] (see [0025], lines 1-3);

> ii) metadata on the sample [sample identity] (see [0024], lines 12-19);

> iii) metadata on the test [operator who performed the test] (see [0034], lines 3-6
>
> and [0037], lines 1-9);

> b) a test result database [the portion of the database dealing testing the sample]

comprising a plurality of instances having associated metadata in the metadata

database giving information about the instance [the database is populated] (see Fig 5,

item 93), the instances comprising information about at least one result derived from the

test on the sample of the material [data measured by the instrumentation] (see [0037],

lines 1-3), each instance comprising:

> > i) at least one data element identifying at least one of material, the sample

or the test [the operator who operated the instrument for testing the sample] (see

[0034], lines 3-6 and [0037], lines 1-9) in order to extend the capability of an extensible

database, which allows dynamic changes to be made to a relational database to a

repository of material property data.

It would be obvious to one of ordinary skill in the art to enter the metadata on the

material, sample and test disclosed by Arritt into the metadata table of Rappold and to

enter data collected when testing the sample as disclosed by Arritt into the data table of

Rappold. One would have been motivated to do so in order to extend the capability of

an extensible database, which allows dynamic changes to be made to a relational

database to a repository of material property data.

However, the combination of Rappold and Arritt (hereafter Rappold/Arritt) fails to

explicitly disclose the further limitation of each instance comprising at least one data

value element selected from a list comprising a single data point, an equation, a graph,

a data array and a picture. Cho discloses the setup and execution of an experiment on

a sample of a material in which the information is stored in the form of instances with

associated metadata (see page 36, Table 1-2 – the instances are represented by the

type of Crystal and the measurement values and the metadata are Crystal and the units

of measurement), including the further limitation of each instance comprising at least

one data value element selected from a list comprising a single data point, an equation,

a graph, a data array and a picture (see page 153, Table 5.3 – the results of ohmic

heating for 10 mT Ar plasma, 0.25 A is 10.8 which is considered to represent a single

data point) in order to extend the capability of an extensible database, which allows

dynamic changes to be made to a relational database to data collected in a laboratory

setting.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to enter the data collected by Cho and the associated metadata

respectively into the results table and metadata table of Rappold/Arritt. One would have

been motivated to do so in order to extend the capability of an extensible database,

which allows dynamic changes to be made to a relational database to data collected in

a laboratory setting, which generally incorporates data points, graphs, equations, arrays

and pictures.

Referring to claim 2, the combination of Rappold/Arritt and Cho (hereafter

Rappold/Arritt/Cho) discloses the repository of claim 1, in which the data element of

claim 1(a)(i) on the material comprises at least one data element selected from a list

comprising material name, material class, one or more material subclasses, material

supplier (Arritt: see [0029], line 12), and material composition for composite materials.

Referring to claim 3, Rappold/Arritt/Cho discloses the repository of claim 1, in

which the data element of claim 1(a)ii on the sample comprises at least one data

element selected from a list comprising a sample identification, a sample description, a

sample size, a sample source and a sample type (Arritt: see [0024], lines 12-19 –

sample identification, sample source and sample type).

Referring to claim 4, Rappold/Arritt/Cho discloses the repository of claim 1, in

which the data element 1(a)(iii) on the test comprises at least one data element selected

from a list comprising a description of test method, test parameters, and test source

information (Arritt: see [0037], lines 1-9 and [0024], lines 4-5 – the operator's name and

department affiliation are considered to represent *test source information*; the identity of

the instrument is considered to also represent *test source information*).

Referring to claim 12, Rappold/Arritt/Cho discloses the repository of claim 1, in

which results that share common defining parameters are grouped to display the effect

of the defining parameters on the result (Cho: see page 151, Table 5-2 – the defining

parameters are 10mT of Ar plasma and 28mT of Ar/N2 mixture).

Referring to claim 13, Rappold/Arritt/Cho discloses the repository of claim 1,

further comprising information about users [operator] of the repository (Arritt: see

[0027]).

Referring to claim 14, Rappold/Arritt/Cho discloses the repository of claim 13, in

the users about whom information is stored in the customer database comprise at least

owners, users and providers of material property datasets in the repository (Arritt: see

[0027] – tables of the database contain information about the operator).

14.   Claims 15-19, 21-26, 28-30, 34-38, and 47 are rejected under 35 U.S.C. 103(a)

as being unpatentable over US PGPub 2004/0117397 to Rappold, III in view of US

PGPub 2005/0131861 to Arritt et al in view of the dissertation titled "Pulsed DC

Reactive Magnetron Sputtering of Aluminum Nitride Thin Films" by Jung Won

Cho in view of US PGPub 2003/0069795 to Boyd et al (hereafter Boyd et al).

Referring to claim 15, Rappold discloses a repository comprising a plurality of

datasets stored in a computer memory, each dataset comprising:

a) a metadata database [metadata table 41] in the form of instances [each row –

in Fig 4, the instances are labeled 1-5] with associated metadata giving information

about the instances, the metadata comprising at least one data element selected from a

list comprising name, description [413 – first, middle, last, username, extension],

identifying information, data type [415 – in this example, the data type is a string], units,

acceptable values or ranges, and default value (see [0041]-[0043] and Fig 4), the

database comprising:

i) metadata [First] on the material (see Fig 4);

ii) metadata [Username] on the sample (see Fig 4);

iii) metadata [Extension] on the test (see Fig 4);

iv) metadata on data value elements [415 – data type: string] in a result

database [data table 50] (see [0042], lines 7-9 and Fig 4); and

b) a test result database [data table 50] comprising a plurality of instances [each

row – in Fig 5, the instances are labeled 121-139] having associated metadata in the

metadata database giving information about the instance [item 514 in data table 50

corresponds with column 411 in the metadata table], the instances comprising

information about at least one result derived from the test on the sample of the material

[the instances comprise information about an individual] (see [0044]-[0046] and Fig 5),

each instance comprising:

i) at least one data element identifying at least one of material, the sample

or the test [item 512 – entity ID] (see [0045], lines 8-9); and

wherein the metadata in the metadata database [metadata table 11 or 41] define

the instances in the metadata database and the instances of test result information in

the test result database [data table 10 or 50] (see [0029]), and

wherein an instance from the test result database [data table 10 or 50], combined

with its associated metadata from the metadata database [metadata table 11 or 41]

describes the test result derived from the test on the sample of the material [describes

an individual] (see [0029] and [0032]).

However, while Rappold discloses a repository of data including a metadata table with associated metadata and a data table containing the actual data values, Rappold fails to explicitly disclose storing material property data in a repository of material property data, wherein the metadata in the metadata table is on the material, sample and test and wherein the data table is a test result table comprising information about at least one result derived from the test on the sample of the material. Furthermore, while Rappold discloses at least one data value element, which is a string, Rappold fails to explicitly disclose at least one data value element selected from a list comprising a single data point, an equation, a graph, a data array, and a picture. Arritt discloses a method of managing material property data, including the further limitations of

a) storing material property data in a repository stored in a computer memory comprising a plurality of materials property datasets (see [0010]), each dataset:

i) being created by a data provider [the operator of the instrumentation] (see [0035]-[0037]);

iii) being associated with a sample of a material and a test on the sample of the material (see [0010] and [0024], lines 12-19); and

iv) comprising:

i) metadata on the material [material code] (see [0025], lines 1-3);

ii) metadata on the sample [sample identity] (see [0024], lines 12-19);

iii) metadata on the test [operator who performed the test] (see [0034], lines 3-6 and [0037], lines 1-9);

b) a test result database [the portion of the database dealing testing the

sample] comprising a plurality of instances having associated metadata in the

metadata database giving information about the instance [the database is

populated] (see Fig 5, item 93), the instances comprising information about at

least one result derived from the test on the sample of the material [data

measured by the instrumentation] (see [0037], lines 1-3), each instance

comprising:

1) at least one data element identifying at least one of material, the

sample or the test [the operator who operated the instrument for testing the sample]

(see [0034], lines 3-6 and [0037], lines 1-9) in order to extend the capability of an

extensible database, which allows dynamic changes to be made to a relational

database to a repository of material property data.

It would be obvious to one of ordinary skill in the art to enter the metadata on the

material, sample and test disclosed by Arritt into the metadata table of Rappold and to

enter data collected when testing the sample as disclosed by Arritt into the data table of

Rappold. One would have been motivated to do so in order to extend the capability of

an extensible database, which allows dynamic changes to be made to a relational

database to a repository of material property data.

However, the combination of Rappold and Arritt (hereafter Rappold/Arritt) fails to

explicitly disclose the further limitation of at least one data value element selected from

a list comprising a single data point, an equation, a graph, a data array and a picture

and a customer database. Cho discloses the setup and execution of an experiment on

a sample of a material in which the information is stored in the form of instances with

associated metadata (see page 36, Table 1-2 – the instances are represented by the

type of Crystal and the measurement values and the metadata are Crystal and the units

of measurement), including the further limitation of at least one data value element

selected from a list comprising a single data point, an equation, a graph, a data array

and a picture (see page 153, Table 5.3 – the results of ohmic heating for 10 mT Ar

plasma, 0.25 A is 10.8 which is considered to represent a single data point) in order to

extend the capability of an extensible database, which allows dynamic changes to be

made to a relational database to data collected in a laboratory setting.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to enter the data collected by Cho and the associated metadata

respectively into the results table and metadata table of Rappold/Arritt. One would have

been motivated to do so in order to extend the capability of an extensible database,

which allows dynamic changes to be made to a relational database to data collected in

a laboratory setting, which generally incorporates data points, graphs, equations, arrays

and pictures.

Furthermore, Rappold/Arritt/Cho fails to explicitly disclose the further limitations

of (a) wherein each dataset has at least one owner; of (b), of (c) or (d). Boyd et al teach

a supplier data management system for materials including a database (see abstract).

In particular, Boyd discloses .

a) storing material property data in a repository comprising a plurality of

materials property datasets (see [0009] and [0021]), each dataset:

ii) having at least one owner (see [0021]-[0023] – the raw material supplier

is considered to represent the *data owner*);

c) a customer database [manufacturers database] (see [0021], lines 5-8),

comprising information about users of the repository, the users about whom information

is stored in the customer database comprise at least owners, users and providers of

information in the repository (see [0022]);

b) providing at least one data owner with access to at least one dataset in the

repository (see [0022] – the supplier has access to the data on the particular materials

which they supply);

c) providing at least one data user with access to at least one dataset in the

repository (see [0009] – the manufacturer is considered to represent the *data user*); and

d) displaying information from at least one dataset stored in step (a) and

accessed by the user in step (c) on a display [Web page display] (see [0046]) in order to

decrease the difficulties of tracking the components of the materials.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use repository of Rappold/Arritt/Cho as a subcomponent to Boyd

et al's method of managing supplier data. One would have been motivated to do so in

order to decrease the difficulties of tracking the components of the materials (Arritt et al:

see [0005]-[0007]).

Referring to claim 16, the combination of Rappold/Arritt/Cho and Boyd

(hereafter Rappold/Arritt/Cho/Boyd) teaches the method of claim 15, in which the

materials property datasets are created by the data provider by the steps of:

specifying generic information about the material including at least one of

the class, subclass, terms that are commonly associated with the material, notes about

the material (Boyd: see [0022] and [0024] – raw material properties, batch information,

information about shipping, material ID), generic physical attributes such as shape and

form, the component materials of the material and their relationship within the material;

performing preliminary validation checks as to whether the information for

the material already exists (Boyd: see [0024] – each raw material consists of one code

which allows for a validation check to see if information has previously entered);

perform preliminary validation checks regarding the structure of the data (Boyd:

see [0024], lines 9-13);

if the dataset passes the checks, entering the dataset into the repository (Boyd:

see [0024]).

Referring to claim 17, Rappold/Arritt/Cho/Boyd teaches the method of claim 16,

in which the data provider specifies the dataset by submitting datasets, each of which

represent the results of the measurements (Boyd et al: see [0021], lines 5-16).

Referring to claim 18, Rappold/Arritt/Cho/Boyd teaches the method of claim 17,

in which the datasets are submitted interactively using a form over a computer network

(Boyd et al: see [0021], lines 5-12 – a spreadsheet).

Referring to claim 19, Rappold/Arritt/Cho/Boyd teaches the method of claim 17,

in which the datasets are submitted from a computer program (Boyd et al: see [0021];

Fig 1, item 26; and Fig 2, item 10).

Referring to claim 21, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which the information on the material in at least one dataset further comprises a

nomenclature of the material, and the dataset further comprises an identification of a

material vendor, the method further comprising the step of providing the material vendor

with access to the dataset for maintenance of the nomenclature (Boyd et al: see [0009]

– the supplier transmits the raw materials property data to the database of the

manufacturer).

Referring to claim 22, Rappold/Arritt/Cho/Boyd teaches the method of claim 21,

in which the nomenclature is selected from a list comprising class, sub-class and

general physical attributes (Boyd et al: see [0019], lines 7-13).

Referring to claim 23, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which the step of providing the data owner with access to at least one dataset in the

repository comprises the steps of:

presenting the data owners with a list summarizing the data that they own,

each item in the list possessing sufficient information for the owner to identify the

property, the information being at least one of the name of the material, the name of the

property, the date of measurement, identification of the specimen sample as obtained

from the data provider and an identification of the test as obtained from the data

provider (Boyd et al: see [0022], lines 17-19); and

presenting the owner is with a hyperlink which would lead to the display of

an overview and details of all results of the test (Boyd et al: see [0022], lines 12-15 – the

user selects the material type from the menu).

Referring to claim 24, Rappold/Arritt/Cho/Boyd teaches the method of claim 23,

further comprising the step of allowing the owner to narrow down the list to data which

represent the same test or property data for the same sample (Boyd et al: see [0023] –

selecting which specification to use when there is more than one is considered to

represent narrowing down the data by property data for the same sample).

Referring to claim 25, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which the step of providing the data user with access to at least one dataset in the

repository comprises the steps of:

allowing the user to indicate any requirements on class, subclasses or

suppliers of material (Arritt: see [0027]);

allowing the user to indicate properties sought (Arritt: see [0027]);

presenting a set of materials with their properties (Arritt: see [0027]);

allowing the user to select at least one material and property from the set (Arritt:

see [0027]); and

displaying a summary and details of the set of datasets for the specified

material and property (Arritt: see [0039] – a generated report).

Referring to claim 26, Rappold/Arritt/Cho/Boyd discloses the method of claim

15, in which at least some of the datasets in the repository further comprise data

representing permitted user access privileges, and the step of providing a user with

access to the repository comprises the step of comparing the user's access privileges to

the data representing permitted user access privileges, and denying access to a dataset

if the user's access privileges are not sufficient to access the dataset (Boyd et al: see

[0022] – the user enters their identifying ID and password and then is only shown data

in which the ID matches the requirements).

Referring to claim 28, Rappold/Arritt/Cho/Boyd discloses the method of claim

15, in which the step of providing the data user with access to at least one dataset in the

repository comprises the steps of:

allowing the user to indicate any requirements on class, subclasses or

suppliers of material (Arritt: see [0027]);

allowing the user to indicate restrictions on values of results (Arritt et al: see

[0027]);

presenting a set of materials with their properties which conform to the

restrictions (Arritt: see [0027]);

allowing the user to select at least one material and property from the set (Arritt

et al: see [0027]); and

displaying a summary and details of the set of datasets for the specified

material and property (Arritt: see [0039] – a generated report).

Referring to claim 29, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which the step of providing the data user with access comprises the step of providing

data in a format which is understandable by a selected computer program or application

(Boyd et al: see [0031]).

Referring to claim 30, Rappold/Arritt/Cho/Boyd teaches the method of claim 29,

in which the repository further stores information describing the format which is

understandable by a selected computer program or application (Boyd et al: see [0031]).

Referring to claim 34, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which the data element of claim 15(a)(iv)(a)(1) on the material comprises at least one

data element selected from a list comprising material name, material class, one or more

material subclasses, material supplier (Arritt: see [0029], line 12), and material

composition for composite materials.

Referring to claim 35, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which a data life cycle of at least one dataset is controlled by the step of permitting at

least one user to activate, inactivate, deprecate and discard the dataset (Arritt: see

[0023] and [0027]).

Referring to claim 36, Rappold/Arritt/Cho/Boyd teaches the method of claim 35,

further comprising the step of providing any user with a review of any active dataset

upon request (Arritt: see [0027]).

Referring to claim 37, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which the data element of claim 15(a)(iv)(a)(2) on the sample comprises at least one

data element selected from a list comprising a sample identification, a sample

description, a sample size, a sample source and a sample type (Arritt: see [0024], lines

12-19 – *sample identification, sample source and sample type*).

Referring to claim 38, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

in which the data element of claim 15(a)(iv)(a)(3) on the test comprises at least one data

element selected from a list comprising a description of test method, a standards body

specifying the test, test parameters, and test source information (Arritt: see [0037], lines

1-9 and [0024], lines 4-5 – the operator's name and department affiliation are

considered to represent *test source information*; the identity of the instrument is

considered to also represent *test source information*).

Referring to claim 47, Rappold/Arritt/Cho/Boyd teaches the method of claim 15,

further comprising the step of providing at least one data owner with means to monitor

usage of at least one dataset (Boyd et al: see [0022] – the network and the interface

provides the means).

**15.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over US
PGPub 2004/0117397 to Rappold, III in view of US PGPub 2005/0131861 to Arritt et
al in view of the dissertation titled "Pulsed DC Reactive Magnetron Sputtering of
Aluminum Nitride Thin Films" by Jung Won Cho in view of US PGPub
2003/0069795 to Boyd et al as applied to claim 19 above, and further in view of US
PGPub 2004/0243580 to Markki et al (hereafter Markki et al).**

Referring to claim 20, Rappold/Arritt/Cho/Boyd teaches a method in which

documents are submitted by the computer program using SOAP protocol. However,

Arritt/Cho/Boyd fails to explicitly teach the further limitation in which the documents are

submitted by the computer program using SOAP protocol. Markki et al teach a method

of submitting documents, including the further limitation. In particular, Markki et al teach

a method similar to that of claim 19, in which the documents are submitted by the computer program using SOAP protocol (Markki et al: see [0169]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Markki et al's method of submitting documents using SOAP protocol with Rappold/Arritt/Cho/Boyd's method for submitting documents as a precautionary measure. One would have been motivated to do so in order to reduce the amount of required overhead and additional software (Arritt et al: see [0007]).

16. **Claims 27 and 31-33 rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2004/0117397 to Rappold, III in view of US PGPub 2005/0131861 to Arritt et al in view of the dissertation titled "Pulsed DC Reactive Magnetron Sputtering of Aluminum Nitride Thin Films" by Jung Won Cho in view of US PGPub 2003/0069795 to Boyd et al as applied respectively to claims 26 and 15 above, and further in view of US Patent No 6,484,173 to O'Hare et al (hereafter O'Hare et al).**

Referring to claim 27, Rappold/Arritt/Cho/Boyd teach a method in which at least some of the datasets in the repository further comprise data representing permitted user access privileges, and the step of providing a user with access to the repository comprises the step of comparing the user's access privileges to the data representing permitted user access privileges, and denying access to a dataset if the user's access privileges are not sufficient to access the dataset. However, Rappold/Arritt/Cho/Boyd fails to explicitly teach the further limitations of presenting the user with a form to

request access to the dataset, accepting the form from the user, notifying the data

owner of the request for access, along with basic identification and contact information

about the requesting user, allowing the data owner to accept or reject the request and if

the data owner accepts the request, updating the data access privileges in the dataset

to permit access by the user. O'Hare et al teaches a method for controlling access to a

storage device (see abstract). In particular, O'Hare et al teach a method similar to that

of claim 26, further comprising the steps, after the step of denying access, of:

presenting the user with a form to request access to the dataset (see column 3,

lines 23-47 – the screen to enter user ID and password is considered to represent the

form);

accepting the form from the user (see column 3, lines 23-47);

notifying the data owner of the request for access, along with basic identification

and contact information about the requesting user;

allowing the data owner to accept or reject the request (see column 2, lines 50-

67 and column 3, lines 23-47);

if the data owner accepts the request, updating the data access privileges in the

dataset to permit access by the user (see column 2, lines 31-35 and column 3, lines 23-

47).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use O'Hare et al's method of controlling access to a storage

device with the management system of Rappold/Arritt/Cho/Boyd. One would have been

motivated to do so in order to limit user access and increase the security of the

information stored in the database (Boyd et al: see [0008], lines 11-17).

Referring to claim 31, Rappold/Arritt/Cho/Boyd teaches a method for managing

material property data. However, Rappold/Arritt/Cho/Boyd fails to explicitly teach the

further limitation of in which there are a plurality of data users and a plurality of domains,

and at least one domain administrator associated with at least one domain, and the

method further comprises the steps of: the domain administrator assigning at least

some of the plurality of users to at least one domain, the domain administrator setting

policies for access of at least one dataset by the users assigned to the domain. O'Hare

et al teach a method for controlling access to a storage device (see abstract). In

particular, O'Hare et al disclose a method similar to that of claim 15, in which there are a

plurality of data users and a plurality of domains, and at least one domain administrator

associated with at least one domain, and the method further comprises the steps of:

the domain administrator assigning at least some of the plurality of users to at

least one domain (O'Hare et al: see column 10, lines 41-56),

the domain administrator setting policies for access of at least one dataset by the

users assigned to the domain (O'Hare et al: see column 10, lines 41-56).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use O'Hare et al's method of controlling access to a storage

device with the management system of Arritt/Cho/Boyd. One would have been

motivated to do so in order to limit user access and increase the security of the

information stored in the database (Boyd et al: see [0008], lines 11-17).

Referring to claim 32, the combination Rappold/Arritt/Cho/Boyd and O'Hare et

al (hereafter Rappold/Arritt/Cho/Boyd/O'Hare) teaches the method of claim 31, in which

the domains are a company or a division of the company (O'Hare et al: see column 10,

lines 41-56 – a workgroup is considered to represent a division of a company).

Referring to claim 33, Rappold/Arritt/Cho/Boyd/O'Hare teaches the method of

claim 31, further comprising the step of permitting the domain administrator to assign at

least one domain to at least one other domain (O'Hare et al: see column 10, lines 41-

56).

Response to Arguments

17.   Applicant's arguments, see Amendment After Final, filed 22 December 2006,

with respect to claims 1-4, 12-38 and 47 have been fully considered and are persuasive.

The Finality of the Office Action dated 22 September 2006 has been withdrawn.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Kimberly Lovel
Examiner
Art Unit 2167

16 January 2007
kml

JOHN COTTINGHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100